

**Appendix A: Findings by the PTAB that Certain Prior Art References
Taught Certain Claim Limitations**

<u>Claim/Limitation(s)</u>	<u>References Teaching These Limitations</u>
1. An optical add-drop apparatus comprising an input port for an input multi-wavelength optical signal having first spectral channels; one or more other ports for second spectral channels;	Bouevitch Patent <ul style="list-style-type: none"> • IPR2014-01166 (Ex. 2 at 22–23); <i>see also</i> Ex. 14 at 23–25. • IPR2015-00726 (Ex. 3 at 15–16 & 23–24); <i>see also</i> Ex. 15 at 31–34 & 51–53. • IPR2015-00731 (Ex. 4 at 19–20); <i>see also</i> Ex. 16 at 25–27.
a wavelength-selective device for spatially separating said spectral channels	Bouevitch Patent <ul style="list-style-type: none"> • IPR2014-01166 (Ex. 2 at 23); <i>see also</i> Ex. 14 at 25–26. • IPR2015-00726 (Ex. 3 at 16 & 23–24); <i>see also</i> Ex. 15 at 34 & 53. • IPR2015-00731 (Ex. 4 at 20); <i>see also</i> Ex. 16 at 27.
a spatial array of beam-deflecting elements positioned such that each element receives a corresponding one of said spectral channels,	Bouevitch Patent <ul style="list-style-type: none"> • IPR2014-01166 (Ex. 2 at 23); <i>see also</i> Ex. 14 at 26–27. • IPR2015-00726 (Ex. 3 at 16 & 23–24); <i>see also</i> Ex. 15 at 34 & 53–54. • IPR2015-00731 (Ex. 4 at 20); <i>see also</i> Ex. 16 at 28. Carr Patent <ul style="list-style-type: none"> • IPR2015-00726 (Ex. 3 at 16); <i>see also</i> Ex. 15 at 34–36.
each of said elements being individually and continuously controllable in two dimensions to reflect its corresponding spectral channel to a selected one of said ports and to control the power of the spectral channel	Bouevitch Patent <ul style="list-style-type: none"> • IPR2014-01166 (Ex. 2 at 23–28) (“each of said elements being individually and continuously controllable . . . to reflect its corresponding spectral channel to a selected one of said ports and to control the power of the spectral channel reflected to said port”); <i>see also</i> Ex. 14 at 27–29. • IPR2015-00726 (Ex. 3 at 16 & 23–24) (“each of said elements being individually . . . controllable . . .”); <i>see also</i> Ex. 15 at 34); Ex. 3 at 34–36 & 53–54.

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reflected to said selected port.	<ul style="list-style-type: none"> IPR2015-00731 (Ex. 4 at 20–25) (“each of said elements being individually and continuously controllable . . . to reflect its corresponding spectral channel to a selected one of said ports and to control the power of the spectral channel reflected to said selected port”); <i>see also</i> Ex. 16 at 27–31. <p>Smith Patent</p> <ul style="list-style-type: none"> IPR2014-01166 (Ex. 2 at 23–28) (“each of said elements being . . . controllable . . . in two dimensions to reflect its corresponding spectral channel to a selected one of said ports and to control the power of the spectral channel reflected to said selected port”); <i>see also</i> Ex. 14 at 27–29 & 31–32. <p>Lin Patent</p> <ul style="list-style-type: none"> IPR2014-01166 (Ex. 2 at 23–28) (“each of said elements being . . . continuously controllable . . .”); <i>see also</i> Ex. 14 at 29–31. IPR2015-00731 (Ex. 4 at 20–25) (“each of said elements being . . . continuously controllable . . .”); <i>see also</i> Ex. 16 at 31–32. <p>Carr Patent</p> <ul style="list-style-type: none"> IPR2015-00726 (Ex. 3 at 16–17 (“each of said elements being individually and continuously controllable in two dimensions to reflect its corresponding spectral channel to a selected one of said ports and to control the power of the spectral channel reflected to said selected port”); <i>see also</i> Ex. 15 at 34–36. <p>Sparks Patent</p> <ul style="list-style-type: none"> IPR2015-00726 (Ex. 3 at 23–24) (“each of said elements being individually and continuously controllable in two dimensions to reflect its corresponding spectral channel to a selected one of said ports and to control the power of the spectral channel reflected to said selected port”); <i>see also</i> Ex. 15 at 53–54. IPR2015-00731 (Ex. 4 at 20–25) (“each of said elements being individually and continuously controllable in two dimensions to reflect its corresponding spectral channel to a selected one of said ports and to control the power of the spectral channel reflected to said selected port”); <i>see also</i> Ex. 16 at 27–31 & 33–34.

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<p>2. The optical add-drop apparatus of claim 1 further comprising a control unit for controlling each of said beam-deflecting elements.</p>	<p>Smith Patent</p> <ul style="list-style-type: none"> • IPR2014-01166 (Ex. 2 at 35); <i>see also</i> Ex. 14 at 35–37). <p>Carr Patent</p> <ul style="list-style-type: none"> • IPR2015-00726 (Ex. 3 at 23; <i>see also</i> Ex. 15 at 36). <p>Sparks Patent</p> <ul style="list-style-type: none"> • IPR2015-00726 (Ex. 3 at 25–26; <i>see also</i> Ex. 15 at 54). • IPR2015-00731 (Ex. 4 at 32–33; <i>see also</i> Ex. 16 at 36–38).